

FIG. 1

FIG. 2

```
glMatrixMode( GL_PROJECTION );  
glLoadMatrix( intrinsic matrix of projector );  
glMultMatrix( xform for rendering view )  
glMultMatrix( inverse(xform for shading view) );  
glMatrixMode( GL_MODEL VIEW );  
glLoadMatrix( xform for shading view );  
// set virtual light positon(s)  
// render graphics model
```

200

FIG. 2

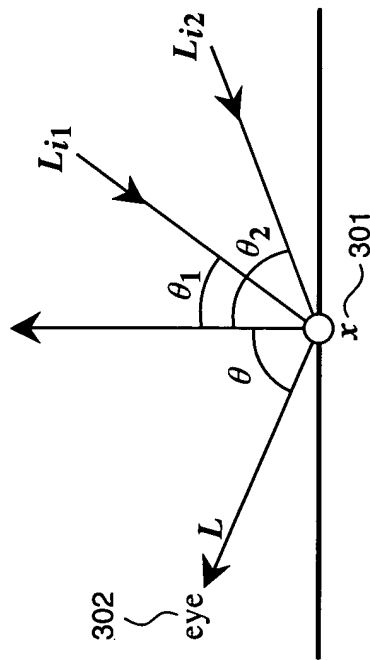


FIG. 3a

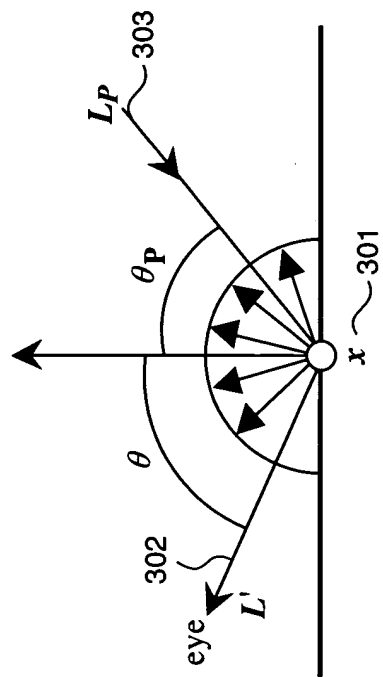


FIG. 3b

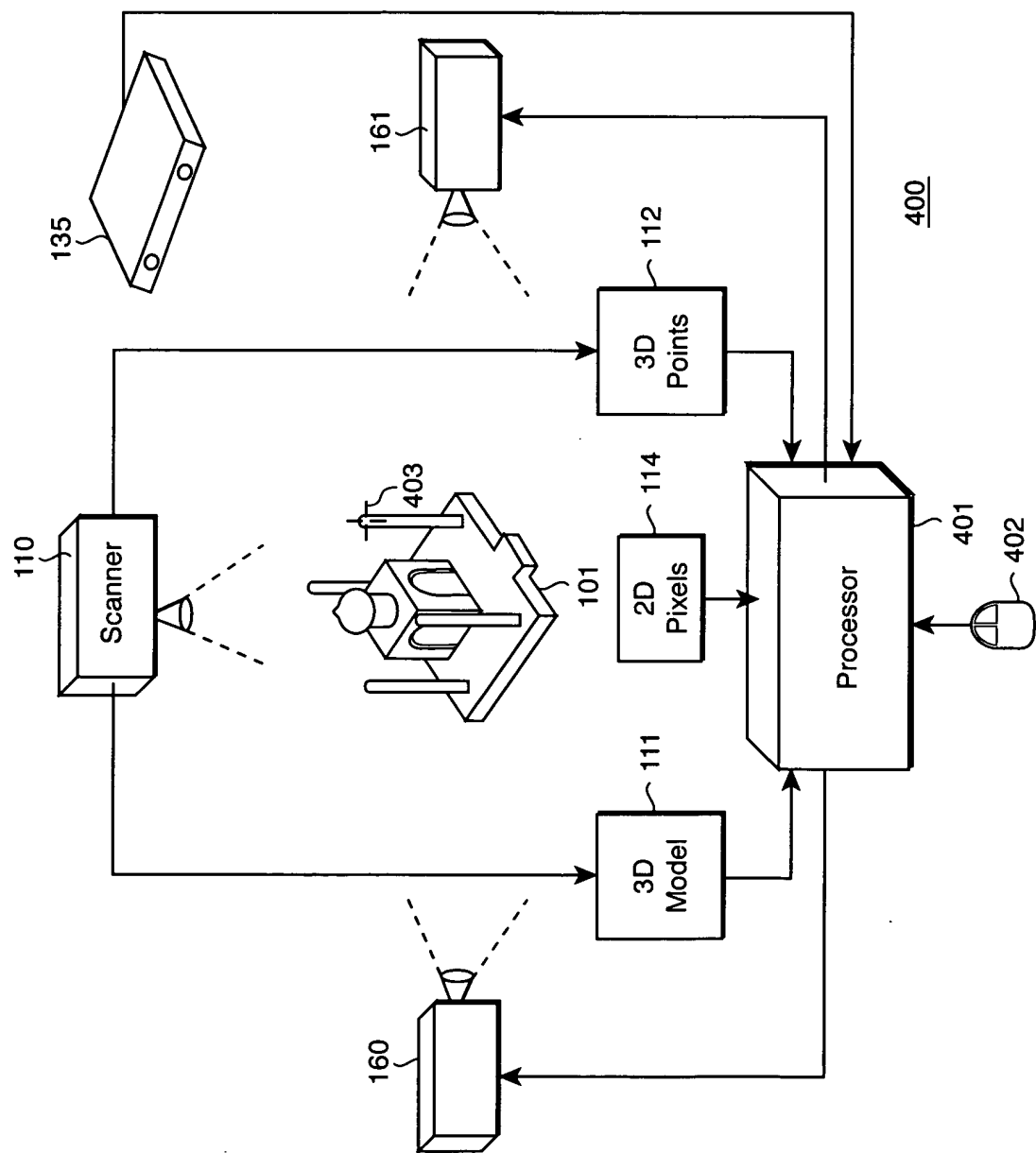


FIG. 4

FIG. 5 is a schematic diagram of a prior art device. The device includes a substrate 500, a first layer 501, a second layer 502, a third layer 503, a fourth layer 504, a fifth layer 505, a sixth layer 506, and a seventh layer 507. The layers are stacked on top of each other. The first layer 501 is a thin layer. The second layer 502 is a thin layer. The third layer 503 is a thin layer. The fourth layer 504 is a thin layer. The fifth layer 505 is a thin layer. The sixth layer 506 is a thin layer. The seventh layer 507 is a thin layer. The layers are stacked on top of each other.

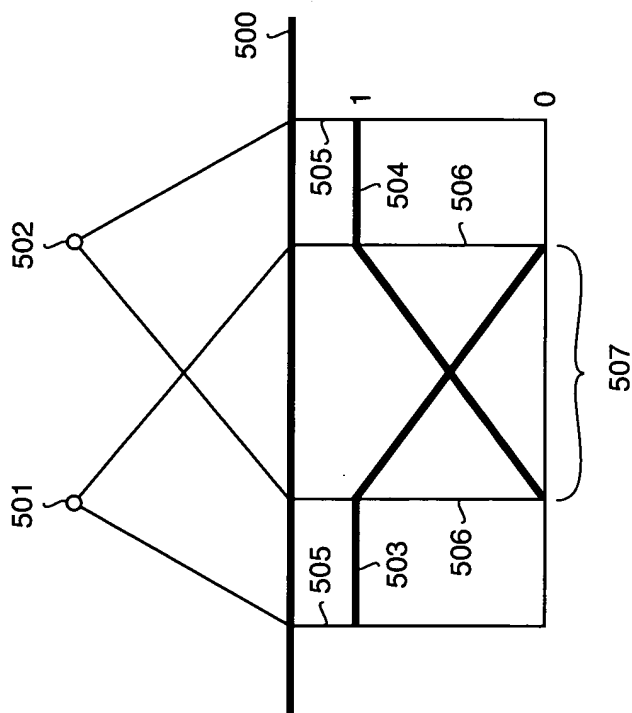


FIG. 5
PRIOR ART

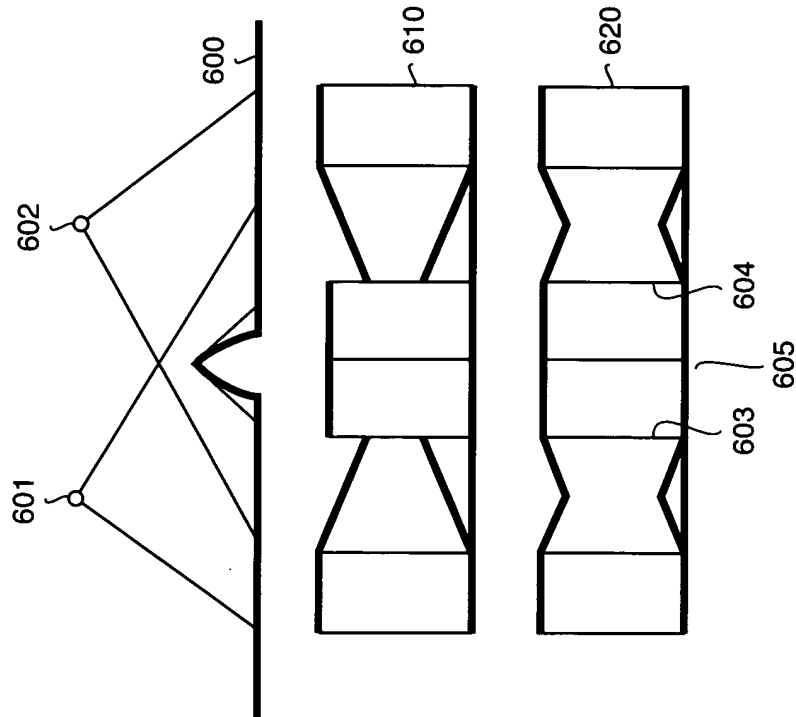


FIG. 6

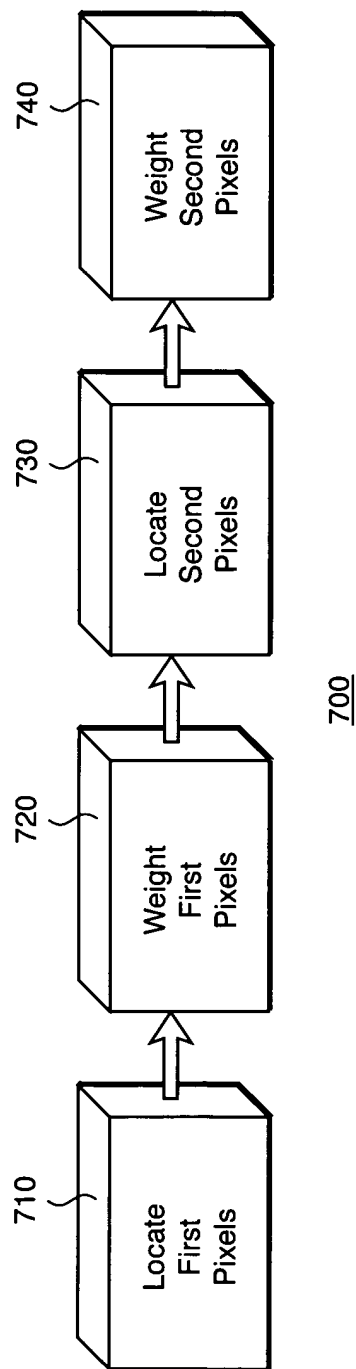


FIG. 7

At each projector,

- Compute boundaries between regions of overlap count 1 and >1
- Compute depth discontinuities using edge detection in depth buffer
- For each pixel in overlap region
 - update shortest distance to overlap count = 1 region ignoring paths crossing depth discontinuity

At each projector,

For each pixel in overlap region

Find all corresponding pixels in other projectors

Assign weights inversely proportional to the shortest distance

800

FIG. 8

FIG. 9 is a block diagram of a system for generating a 3D model of a vehicle from a video sequence. The system includes a camera 901, a processor 900, and a display 960. The processor 900 includes a Generate 3D Model block 910, a Register Projector block 920, a Segment 3D Model block 930, an Edit Segmented 3D Model block 940, a Virtual Segmented Model block 941, a Segmented 3D Model block 931, and a Real-time Rendering Correcting Projecting block 950. The system also includes an Animation Video block 951. The camera 901 captures a video sequence of a vehicle 901 on a road 934. The processor 900 generates a 3D model 911 from the video sequence. The 3D model 911 is then registered 920 and segmented 930 into components such as wheels 932, car body 933, and road 934. The segmented model 931 is then edited 940 to create a virtual segmented model 941. The virtual segmented model 941 is then rendered 950 in real-time to produce an animation video 951. The animation video 951 is then displayed 960 on the display 960.

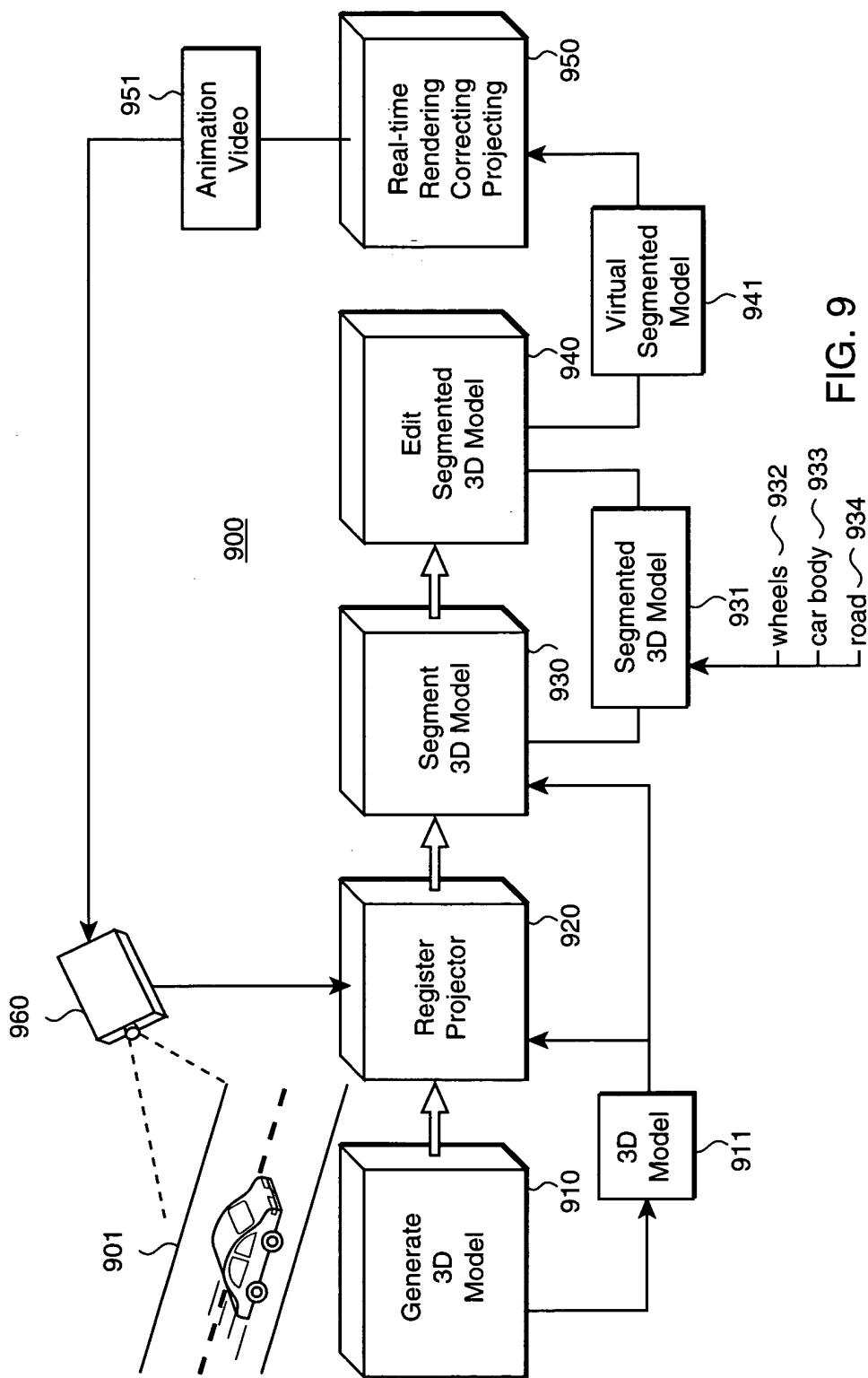


FIG. 9